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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
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10/628,552

07/29/2003

Hirokazu Nunokawa

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10/17/2006

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EXAMINER

KUMAR, RAKESH

ART UNIT

PAPER NUMBER

3654

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/628,552             | NUNOKAWA, HIROKAZU  |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Rakesh Kumar           | 3654                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-12 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/05/2006 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchida (US 4,941,021).

Referring to claims 1 and 14. Uchida discloses an image forming apparatus (Figure 1-12) and a method for recording images on a recording material comprising:  
a step of changing a carry command value (change in signal indicating the height of loop b; Figure 11A-11C), when carrying a recording medium (S) according to a state

Art Unit: 3654

of bending (see loop b) of said recording medium (S) that is carried (through the apparatus in Figure 2);

a step of driving at least one carry roller (11), which advances the recording medium (S), based on the carry command value (change in signal indicating the height of loop b; Figure 11A-11C) that has been changed (when sensor 13 detects or no longer detects the loop b; Col. 7 line 31); and

a step of recording on the recording medium (S) that has been carried (the imaging forming process);

wherein the larger the carry command value is (the size of the height of loop b detected; (Figure 11A-11C), the more the carry roller (11) rotates (variation of speed of roller 11 wherein  $Vr2 > Vb > Vr1$ )

Referring to claim 2. Uchida discloses an image forming apparatus (Figure 1-12) and a method for recording images on a recording material comprising:

changing a carry command value (change in signal indicating the height of loop b; Figure 11A-11C), when carrying a recording medium (S) according to a state of bending (see loop b) of the recording medium (S) that is carried;

carrying the recording medium (S) based on said carry command value (the size of the height  $h1$  and  $h2$  of loop b detected; (Figure 11A-11C) that has been changed;

wherein the carry command value (change in signal indicating the height of loop b; Figure 11A-11C) is changed based on an aggregate carry amount (the difference

between h1 and h2; Figure 11B and 11C) that corresponds to a change in said state of bending (bending of the loop b).

Regarding claims 3 and 15. Uchida discloses an image forming apparatus (Figure 1-12) and a method for recording images on a recording material comprising:

wherein the carry command value (change in signal indicating the height of loop b; Figure 11A-11C) is changed when a front end region (front end of medium engages the nip in roller 11 and loop b begins to form) of the recording medium (S) is carried (by roller 11) and when a rear end region (rear end of the medium approaches roller 11 and loop b begins to dissipate) of said recording medium (S) is carried (by roller 11).

Regarding claim 4. Uchida discloses an image forming apparatus (Figure 1-12) and a method for recording images on a recording material comprising:

wherein when the front end region is carried (front end of medium), the carry command value (change in signal indicating the height of loop b; Figure 11A-11C) is changed to a larger carry command value (loop b height changes from 0 to a h1/h2 value) than said rear end (rear end of medium) region is carried (loop b height changes from h1/h2 to a 0 value).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 3654

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida as applied to claim 1 above, and further in view of Maruchi (US 6,338,481).

Referring to claims 5-9. See rejection in claim 1. Maruchi discloses a sheet decurling apparatus for a copier wherein the height of the loop (Figure 7 and 8) is an attribute of the recording medium (P).

It would have been obvious to one skilled in the art at the time the invention was made to modify the teachings of Uchida to include the loop height as a material property of the recording medium as taught by Maruchi because the level and the aggregate value of the height of the medium can be related to the amount of the bending the medium would undergo as a result improve the accuracy of detecting the particular thickness of the medium being fed.

Claims 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida in view of Maruchi as applied to claim 5 above, and further in view of Ahne (US 6,406,110).

Referring to claim 13. Ahne et al. discloses a printer controller (30) with an ability to access a look-up table.

It would be obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Uchida in view of Maruchi and Ahne to include a

Art Unit: 3654

processor controller with the ability to access a computer-readable medium (cd, floppy, 3.5" floppy) bearing program code instructions such as a look-up table as disclosed in Ahne to perform operation and up date bending information of new media types because it would be easier to program the apparatus with a new software and print media sheet thickness.

***Allowable Subject Matter***

Claims 10-12 are allowed.

***Response to Arguments***

Applicant's arguments filed 07/05/2006 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 1-9 and 13-15 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh Kumar whose telephone number is (571) 272-8314. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RK  
October 11, 2006

  
**KATHY MATECKI**  
**SUPERVISORY PATENT EXAMINER**  
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